

The purpose of this report is to research the best non-slip safety boots for wet/cold tracks on forestry equipment. Based on a report issued by Amy Poole "Best Work Boots in Canada 2021" on January 13, 2021, the top three options are the Timberland, Caterpillar and the Tiger.

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What to consider when looking for work boots

Water-resistance

As you will be wearing the work boots outside in all weather conditions, it is important that they are waterproof to keep your feet dry during the rain. Top-quality boots will be treated with oil or wax in order to call themselves waterproof. However, consider that you will need to re-apply oil occasionally if they are worn regularly.

Alternatively, boots made with a synthetic material such as Gore-Tex — a membrane fabric that does not allow water droplets to pass through will have long-lasting water resistance.

Insulation

Your feet may get cold if you are working outside in the winter for extended periods of time. In these cases, we recommended insulated boots with a layer of polyester to retain heat. Check what temperature the boots are suitable for, as this will give you a rough idea of the time of year they are designed for.

You can also look for measurements of insulation, which is listed in grams. Higher figures mean the insulation is heavier, thus, making the boot thicker and warmer.

Durability

The main factor that affects durability is the material. Opt for leather as synthetic materials are not long-lasting and break easily. Watch out for boots that are advertised as lightweight without any mention of materials, as they will likely use synthetic properties.



You should also consider other features such as the quality of the laces. Are they protected with a plastic coating at the end to prevent fraying? We also recommend a rubber outsole along with a steel toe cap as these makes them less likely to become misshapen from extended wear.

Protection

It is essential that work boots worn on forestry operations and heavy commercial sites have a steel toe cap, which is referred to as a safety toe. In more recent years, these toe caps can be made of carbon fiber, fiberglass and plastic — depending on your budget and the amount of protection you are looking for. If you require the ultimate protection against injury, steel is your best option, though you should consider that this material can get cold quickly.

Traction

Another essential safety feature is slip-resistance. Look for outsoles with tread patterns that draw away liquid and mud to prevent grabbing onto them. They should have a high-quality tread that means you don't slip over at the first sign of oil or moisture. This keeps your boots cleaner and helps prevent muddy buildup from the bottom of your boots.

Footwear must be chosen based on the hazards that are present. Assess the workplace and work activities for:

- Materials handled or used by the worker.
- Risk of objects falling onto or striking the feet.
- Any material or equipment that might roll over the feet.
- Any sharp or pointed objects that might cut the top of the feet.
- Objects that may penetrate the bottom or side of the foot.
- Possible exposure to corrosive or irritating substances.
- Possible explosive atmospheres including the risk of static electrical discharges.
- Risk of damage to sensitive electronic components or equipment due to the discharge of static electricity.
- Risk of coming into contact with energized conductors of low to moderate voltage (e.g., 220 volts or less).
- Type of walking surface and environmental conditions workers may be exposed to (e.g., loose ground cover, smooth surfaces, temperature, wet/oily, chemicals, etc.).

Also, evaluate the following risks:

- Ankle injury from uneven walking surfaces or rough terrain.
- Foot injury due to exposure to extreme hot or cold.
- Slips and falls on slippery walking surfaces and the types of weather conditions.
- Exposure to water or other liquids that may penetrate the footwear causing damage to the foot and the footwear.
- Exposure to rotating or abrasive machinery (e.g., chainsaws or grinders).



Here is some information on three types of safety boots for the Forestry Industry.

1. Timberland Pro Pit Boss



Safety

These Timberland boots are engineered to protect your feet at a dangerous work site. The steel toe cap prevents the ultimate shield if any hazardous object drops onto your foot. They meet the ATSM (formerly ANSI) safety standards for protective footwear, providing you with peace of mind at work.

If you are looking for footwear that is resistant to slips and oil spillages, these are a great option. The rubber outsoles limit your chances of accidents, thanks to the tread pattern for traction.

You will also be protected from electrical dangers, thanks to the Electrical Hazard Protection. This provides underfoot security towards electrically energised conductors or live circuits. The boots are also long-lasting, making them perfect for varies worksites, due to the rugged nubuck leather uppers.

Comfort

With a removable footbed fitted with an open-cell polyurethane material to offer antimicrobial treatment, these work boots offer odor control. This is a great feature if you wear boots for long periods each time. The shoes feature top collars for a padded protective layer, which offers comfort and support. This enables you to tighten the laces without adding any pressure to your ankles.

The midsoles are padded to support the arch and cushion each step. The Polyurethane layer on the midsole also contributes to a cushioning effect, helping to reduce foot fatigue if you walk around all day, every day.

Durability

When customers were scoured for feedback, many were impressed with the durability. They are also resistant to wear and tear and don't easily break or become worn on the work site.

Standard: CAN/CSA-Z195-14 Grade 1



2. Caterpillar Hauler Composite Toe Boot



Standard: CSA Z195-14 Grade 1

Safety

These work boots are CSA Z195-14 Grade 1 rated with a non-metallic composite toe protector that absorbs impacts or compression when at a work site. They also offer an Electric Hazard Protection up to 600 volts in dry conditions — this is great if you work with live wires. The waterproof full-grain leather lining and thick rubber outsole make this footwear less resistant to punctures.

Accidents can happen in the workplace, which is why these boots are equipped with a molded PU midsole to absorb any shocks should you stand on a sharp object or heavy materials drop on your foot. Like the Timberland boots above, this footwear offers a rubber outsole to reduce the chances of slips and low-traction surfaces or spillages.

Comfort

To keep your feet dry when it's raining, the boots feature a waterproof leather upper that's sealed tight. But in hot conditions, you'll appreciate the mesh lining for the ultimate breathability and softness against your feet. Plus, the Nylex sock liner wicks away any moisture from the foot to keep your shoes dry and comfortable.

The PU foam footbed molds to your feet and provides the ultimate cushioned effect — so your boots don't put pressure on your feet. The shank — the supportive structure between the outsole and midsole — is made of nylon, which keeps your feet stable, and body properly aligned as you walk. This also helps to reduce pressure from your feet.

Durability

Made with leather and featuring a rubber sole, these work boots are designed for rough terrain. They are puncture-resistant, making them ideal for forestry worksites. Plus, the waterproof upper makes them suitable for wear when it is raining.



3. Tiger



Standard: CSA Z195-14 Grade 1

Safety

Designed with a rubber outsole, you can confidently climb ladders and walk on uneven terrain without losing your grip. The composite toe offers a high level of protection against injuries. These CSA-approved boots absorb shocks, so your feet won't hurt when wearing them for long periods at a time. The sturdy midsole offers an anti-puncture protection to prevent injuries on forestry worksites.

Comfort

These boots also contain a waterproof membrane that prevents them from becoming ruined in the rain. This feature also keeps your feet dry from the rain while allowing your feet to breathe so they don't become too hot or sweaty. They are also salt and oil-resistant — perfect for work sites.

The boots are also insulated to keep your toes toasty when temperatures drop. To further remain comfortable, the work boots are available in a wide fit. They are designed with a full-grain leather upper to prevent the laces digging into your skin.

Durability

The full-grain leather upper makes these work boots long-lasting, plus, the waterproof membrane provides a protective layer within the shoe, making them last further.



Safety standards to look for

- Canadian Safety Association
 - <u>CSA Z195-14</u>
- American Society for Testing and Materials (ASTM)
 - <u>ASTM F2412-11</u>
 - ASTM F2413-11

Canadian safety symbols to look for

Marking	Meaning	Application
R	Sole puncture protection with a Grade 1 protective toecap	Heavy industrial work environments where sharp objects are present
R	Sole puncture protection with a Grade 2 protective toecap	Light industrial work environments
R	Grade 1 protective toe without sole puncture protection	Industrial work environments not requiring puncture protection.
R	Grade 2 protective toecap with no puncture-resistant sole.	Light industrial work environments not requiring puncture protection.
Ω R	Resistance to electric shock of 18,000 Volts and a leakage current not exceeding 1mA for 60 seconds.	Where accidental contact with live electrical conductors can occur.



SD ®	Capable of dissipating an electrostatic charge in a controlled manner.	Where a <u>static discharge</u> can be a hazard for workers or equipment.
SE+®	Sole puncture protection with a Grade 2 protective toecap and super-static dissipative	Where a static discharge can be a serious hazard for workers or equipment.
C®	Electrically conductive footwear	Where low-power electrical changes can create a hazard for workers or equipment
M®	Metatarsal protection	Where heavy objects can hurt the metatarsal region of the foot
	Protection when using chainsaws	Forestry workers and others who work with or around hand- held chainsaws

Source: Canadian Centre for Occupational Health and Safety